

Work Order ID 140961

140961

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Tuesday, January 26, 2016 3:16:40 PM

Item ID: D2933-1BL Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Saddle LH In, 206
 Start Date: 1/26/2016 Start Qty: 4.00 *4* 10 84 Cust Item ID:
 Required Date: 1/26/2016 Req'd Qty: 4.00 *4* 10 Customer:
 Reference:

Approvals: Process Plan: MLJ Date: JAN 27 2016 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2933	Rev C								

100		0.00				10	φ		B.A 16/03/07
100	HAAS CNC VERTICAL MACHINING #1								
HAAS 1	Memo	0.05							
HAAS CNC vertical machine #1	Program part number and batch number.1-Inspect part number and batch number are programmed correctly.2-Machine Step No 1 of Folio and visually inspect as per dwg D2933 & attached Dimension Sheet 3-Machine Step No 2 of Folio and visually inspect as per								
110		0.00				10	φ		B.A 16/03/07
110	CONVENTIONAL MILLING MACHINE								
Mill Conv	Memo	0.01							
Conventional Milling Machine	Machine Keyway and inspect per attached dimension sheet								
120		0.00				10	φ		B.A 16/03/07
120	QC1- Inspection performed by CMM								
QC	Memo	0.00							
Quality Control									

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

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Page 2

Item ID: D2933-1BL Accept ***N900040100*** Setup Start ***NS1***
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 Item Name: Saddle LH In, 206
 Start Date: 1/26/2016 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 1/26/2016 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00				10	0		DAS 20 9-89 16-03-08
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.01				10			DAS 41 9-89 16-3-8
150 *150* SprayPaint Spray Painting	Spray Painting per QSI005 4.2 Memo *** MASK ALL HOLES AS PER PAR16-484*** SPRAY PAINT BLUE BATCH: _____	0.00 0.00				10			DAS 41 9-89 16-3-8
				Prime 134188 Paint 134120 Clear 133154					

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 140961

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Item ID: D2933-1BL Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Saddle LH In, 206
Start Date: 1/26/2016 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 1/26/2016 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC14- Inspect Spray Paint	0.00							
160									DAS
QC	Memo	0.00							38
Quality Control									9-89
									MAR 09 2016
170	Identify as per dwg & Stock Location 3389	0.00							
170									DAS
Packaging	Memo	0.00							6
Packaging									3-89
									MAR 08 2016
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.01							ML5
Quality Control									MAR 10 2016

MAR 09 2016

ML5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

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Work Order ID: 140961

140961

Parent Item: D2933-1BL

***D2933-1BL ***

Parent Item Name: Saddle LH In, 206

Start Date: 1/26/2016

Required Date: 1/26/2016

Start Qty: 4.00

Required Qty: 4.00

Comments:

IPP: B00.06.26New DWG rev (mpp 2069)EC

IPP Rev:C As per Rev C 07-03-19 JLM

15.10.09 ADDED BL DD VERF:JLM

PAR16-484 DD VERF:JLM

IPP REV:D

IPP REV:E 16.01.22

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-001		Manufactured	No			100	Each	62.0000	1	4			

D6101-001

Saddle Billet

Handwritten signature and date 16/03/06

Location

Loc Qty

Loc Code

MAT042

62

132708

14

135956

34

137755

14

10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

DART AEROSPACE LTD		Work Order:	140961
Description: 206 Saddle, Inboard, Left side		Part Number:	D2933-1
Inspection Dwg: D2933 Rev: C DSK: Rev:		Page 1 of 2	

FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article ☐ Prototype

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				1	2	3	4	5
A	0.100	0.140		0.127	0.127	0.126	0.128	0.127
B	0.100	0.140		0.127	0.127	0.116	0.128	0.127
C	0.100	0.140		0.113	0.114	0.114	0.115	0.112
D	0.210	0.230		0.225	0.220	0.220	0.220	0.220
E	1.245	1.255		1.250	1.250	1.250	1.250	1.250
F	1.245	1.255		1.250	1.250	1.150	1.250	1.250
G	2.495	2.505		2.500	2.500	2.500	2.500	2.500
H	0.510	0.515		0.512	0.512	0.512	0.512	0.512
I	1.572	1.582		1.577	1.577	1.577	1.577	1.577
J	2.495	2.505		2.500	2.500	2.500	2.500	2.500
K	0.257	0.262		0.258	0.258	0.258	0.258	0.258
L	0.312	0.317		0.314	0.314	0.314	0.314	0.314
M	0.235	0.240		0.236	0.235	0.236	0.235	0.236
N	0.100	0.140		0.121	0.121	0.121	0.122	0.121
O	0.540	0.560		0.547	0.547	0.547	0.548	0.547
P	0.490	0.510		0.499	0.500	0.500	0.500	0.500
Q	3.715	3.725		3.720	3.720	3.720	3.720	3.720
R	2.470	2.510		2.490	2.490	2.490	2.490	2.490
S	0.240	0.270		0.254	0.247	0.247	0.247	0.248
T	0.100	0.180		0.130	0.130	0.130	0.130	0.130
U	1.625	1.635		1.630	1.630	1.630	1.630	1.630
V	1.362	1.372		1.367	1.367	1.367	1.367	1.367
W	0.316	0.321		0.317	0.317	0.317	0.317	0.317
X	1.125	1.145		1.137	1.137	1.136	1.137	1.137
Y	1.565	1.585		1.576	1.576	1.576	1.576	1.576
Z	0.178	0.198		0.188	0.188	0.188	0.188	0.188
AA								
AB								
AC								
AD								
AE								
Accept/Reject				✓	✓	✓	✓	✓

Measured by:	DAS	Date:	16/03/07
Audited by:	20	Date:	16-03-08
Prototype Approval:	N/A	Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.12.12	Re-format; Added Dim. X-Y, DT8683, DT8686, DT8690 & DT8695 A/B	KJ/RF	
C	06.10.03	Removed DT8683, DT8686 & DT8690	KJ/JLM	
D	07.03.21	Revised per drawing revision C	KJ/JLM	
E	08.01.16	DT8695 A/B removed from dimension Y	KJ/EC/DD	

DART AEROSPACE LTD		Work Order:	140961
Description: 206 Saddle, Inboard, Left side		Part Number:	D2933-1
Inspection Dwg: D2933	Rev: C	DSK:	Rev:
			Page 2 of 2

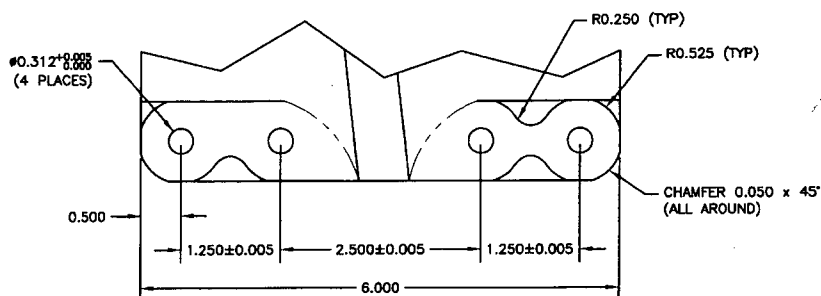
FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ **First Article**
☐ **Prototype**

Dim	Min	Max	Go/No Go Gauge	Record Actual Dimensions				
				# 6	# 7	# 8	# 9	# 10
A	0.100	0.140		0.127	0.126	0.126	0.127	0.127
B	0.100	0.140		0.125	0.125	0.125	0.125	0.125
C	0.100	0.140		0.115	0.114	0.114	0.114	0.114
D	0.210	0.230		0.220	0.220	0.220	0.220	0.220
E	1.245	1.255		1.250	1.250	1.250	1.250	1.250
F	1.245	1.255		1.250	1.250	1.250	1.250	1.250
G	2.495	2.505		2.500	2.500	2.500	2.500	2.500
H	0.510	0.515		0.512	0.512	0.512	0.512	0.512
I	1.572	1.582		1.577	1.577	1.577	1.577	1.577
J	2.495	2.505		2.500	2.500	2.500	2.500	2.500
K	0.257	0.262		0.258	0.258	0.258	0.258	0.258
L	0.312	0.317		0.314	0.314	0.314	0.314	0.314
M	0.235	0.240		0.235	0.235	0.236	0.236	0.235
N	0.100	0.140		0.121	0.121	0.121	0.121	0.120
O	0.540	0.560		0.548	0.548	0.548	0.548	0.548
P	0.490	0.510		0.500	0.500	0.500	0.500	0.500
Q	3.715	3.725		3.720	3.720	3.720	3.720	3.720
R	2.470	2.510		2.490	2.490	2.490	2.490	2.490
S	0.240	0.270		0.250	0.250	0.250	0.250	0.249
T	0.100	0.180		0.130	0.130	0.130	0.130	0.130
U	1.625	1.635		1.630	1.630	1.630	1.630	1.630
V	1.362	1.372		1.367	1.367	1.367	1.367	1.367
W	0.316	0.321		0.317	0.317	0.317	0.317	0.317
X	1.125	1.145		1.137	1.137	1.137	1.137	1.137
Y	1.565	1.585		1.576	1.576	1.576	1.576	1.576
Z	0.178	0.198		0.188	0.188	0.188	0.188	0.188
AA								
AB								
AC								
AD								
AE								
Accept/Reject								

Measured by:	B. DAS	Date:	16/03/08
Audited by:	20	Date:	16-03-08
Prototype Approval:	N/A	Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.12.12	Re-format; Added Dim. X-Y, DT8683, DT8686, DT8690 & DT8695 A/B	KJ/RF	
C	06.10.03	Removed DT8683, DT8686 & DT8690	KJ/JLM	
D	07.03.21	Revised per drawing revision C	KJ/JLM	
E	08.01.16	DT8695 A/B removed from dimension Y	KJ/EC/DD	

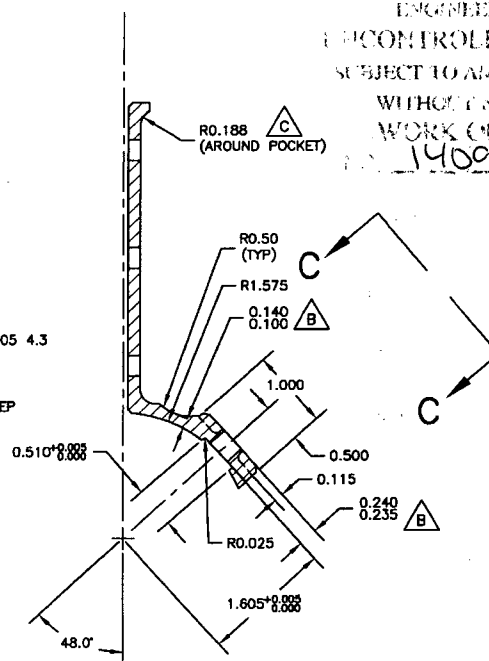


VIEW C-C

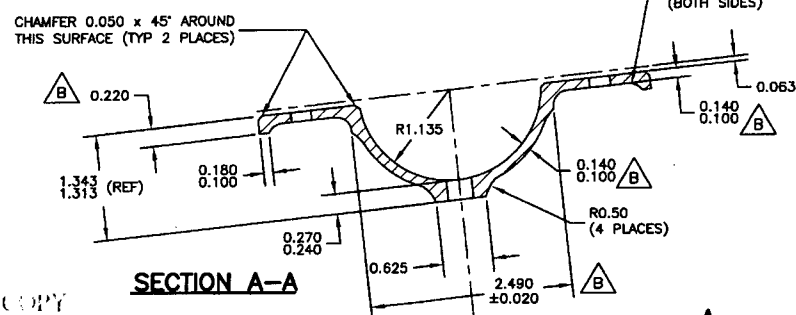
D2933-1 LH SADDLE (SHOWN)
D2933-2 RH SADDLE (OPPOSITE)

NOTES:

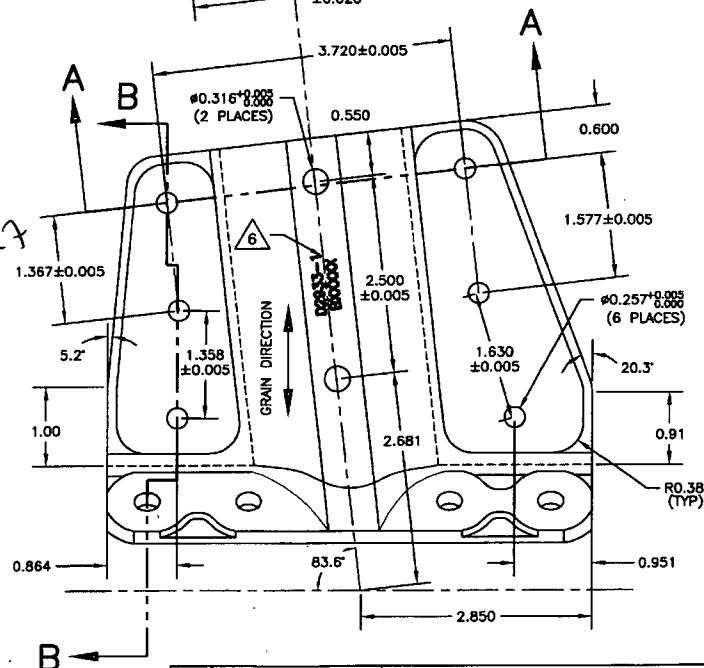
- 1) MATERIAL: ALUMINUM 7075-T7351 (QQ-A-250/12)
(MAKE FROM D6101-001 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) BREAK ALL SHARP EDGES 0.010 TO 0.020
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) ENGRAVE PART AND BATCH NUMBER IN THIS AREA 0.010 TO 0.015 DEEP



SECTION B-B



SECTION A-A



C	06.11.09	R0.188 WAS R0.30 TO R0.25
B	00.05.29	CHANGED GEOMETRY AND MATERIAL
A	99.10.29	NEW ISSUE
DESIGN	4	DRAWN BY CB
CHECKED	PH	APPROVED
DATE	06.11.09	DRAWING NO. D2933
		TITLE SADDLE INSIDE
		REV. C SHEET 1 OF 1 SCALE 2:3

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